

## PATENT COOPERATION TREATY

PCT

## NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Commissioner  
 US Department of Commerce  
 United States Patent and Trademark  
 Office, PCT  
 2011 South Clark Place Room  
 CP2/5C24  
 Arlington, VA 22202  
 ETATS-UNIS D'AMERIQUE  
 in its capacity as elected Office

<b>Date of mailing</b> (day/month/year) 15 May 2001 (15.05.01)	<b>Applicant's or agent's file reference</b> MRH/P15693WO
<b>International application No.</b> PCT/GB00/03234	<b>Priority date</b> (day/month/year) 19 August 1999 (19.08.99)
<b>International filing date</b> (day/month/year) 21 August 2000 (21.08.00)	
<b>Applicant</b> JEAPES, A., J. et al	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:  
 14 March 2001 (14.03.01)

☐ in a notice effecting later election filed with the International Bureau on:  
 \_\_\_\_\_

2. The election ☒ was  
☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer Olivia TEFY Telephone No.: (41-22) 338.83.38
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## TENT COOPERATION TRE

PCT

NOTIFICATION OF THE RECORDING  
OF A CHANGE(PCT Rule 92bis.1 and  
Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

HARRISON GODDARD FOOTE  
Belgrave Hall  
Belgrave Street  
Leeds LS2 8DD  
ROYAUME-UNI

Date of mailing (day/month/year) 04 December 2001 (04.12.01)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference MRH/P15693WO	
International application No. PCT/GB00/03234	International filing date (day/month/year) 21 August 2000 (21.08.00)

1. The following indications appeared on record concerning:									
<input type="checkbox"/> the applicant	<input type="checkbox"/> the inventor <input checked="" type="checkbox"/> the agent <input type="checkbox"/> the common representative								
Name and Address HARRISON GODDARD FOOTE Tower House Merrion Way Leeds LS2 8PA United Kingdom	<table border="1"> <tr> <td>State of Nationality</td> <td>State of Residence</td> </tr> <tr> <td colspan="2">Telephone No. +44 113 290 1400</td> </tr> <tr> <td colspan="2">Facsimile No. +44 113 244 2829</td> </tr> <tr> <td colspan="2">Teleprinter No.</td> </tr> </table>	State of Nationality	State of Residence	Telephone No. +44 113 290 1400		Facsimile No. +44 113 244 2829		Teleprinter No.	
State of Nationality	State of Residence								
Telephone No. +44 113 290 1400									
Facsimile No. +44 113 244 2829									
Teleprinter No.									
2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:									
<input type="checkbox"/> the person	<input type="checkbox"/> the name <input checked="" type="checkbox"/> the address <input type="checkbox"/> the nationality <input type="checkbox"/> the residence								
Name and Address HARRISON GODDARD FOOTE Belgrave Hall Belgrave Street Leeds LS2 8DD United Kingdom	<table border="1"> <tr> <td>State of Nationality</td> <td>State of Residence</td> </tr> <tr> <td colspan="2">Telephone No. +44 113 233 0100</td> </tr> <tr> <td colspan="2">Facsimile No. +44 113 233 0101</td> </tr> <tr> <td colspan="2">Teleprinter No.</td> </tr> </table>	State of Nationality	State of Residence	Telephone No. +44 113 233 0100		Facsimile No. +44 113 233 0101		Teleprinter No.	
State of Nationality	State of Residence								
Telephone No. +44 113 233 0100									
Facsimile No. +44 113 233 0101									
Teleprinter No.									
3. Further observations, if necessary:									
4. A copy of this notification has been sent to:									
<input checked="" type="checkbox"/> the receiving Office	<input type="checkbox"/> the designated Offices concerned								
<input type="checkbox"/> the International Searching Authority	<input checked="" type="checkbox"/> the elected Offices concerned								
<input checked="" type="checkbox"/> the International Preliminary Examining Authority	<input type="checkbox"/> other:								

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer Dominique DELMAS
Facsimile No.: (41-22) 740.14.35	Telephone No.: (41-22) 338.83.38

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>MRH/P15693WO</b>	<b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. <b>PCT/GB 00/ 03234</b>	International filing date (day/month/year) <b>21/08/2000</b>	(Earliest) Priority Date (day/month/year) <b>19/08/1999</b>
Applicant <b>BRITISH NUCLEAR FUELS PLC et al.</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 2 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

## 1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☐ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

☐ None of the figures.

## INTERNATIONAL SEARCH REPORT

International Application No

T/GB 00/03234

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 G21C19/48

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 G21C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
P, A	WO 99 41752 A (BRITISH NUCLEAR FUELS PLC ;PITNER WILLIAM ROBERT (GB); ROONEY DAVI) 19 August 1999 (1999-08-19) the whole document ---	1
A	WO 99 14160 A (BRITISH NUCLEAR FUELS PLC ;PITNER WILLIAM ROBERT (GB); FIELDS MARK) 25 March 1999 (1999-03-25) the whole document -----	1

☐ Further documents are listed in the continuation of box C

☒ Patent family members are listed in annex

## \* Special categories of cited documents

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*&\* document member of the same patent family

Date of the actual completion of the international search

17 July 2001

Date of mailing of the international search report

24/07/2001

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340 2040, Tx. 31 651 epo nl.  
Fax: (+31-70) 340 3016

Authorized officer

Brothier, J-A

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PT/GB 00/03234

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 9941752	A	19-08-1999	AU 2526799 A CN 1290397 T EP 1055240 A	30-08-1999 04-04-2001 29-11-2000
WO 9914160	A	25-03-1999	CN 1269767 T EP 1019322 A	11-10-2000 19-07-2000

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)


Applicant's or agent's file reference <b>AJC/P15693WO</b>	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. <b>PCT/GB00/03234</b>	International filing date ( <i>day/month/year</i> ) <b>21/08/2000</b>	Priority date ( <i>day/month/year</i> ) <b>19/08/1999</b>
International Patent Classification (IPC) or national classification and IPC <b>G21F9/00</b>		
Applicant <b>BRITISH NUCLEAR FUELS PLC et al.</b>		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.  
  
☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 1 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☒ Certain observations on the international application

Date of submission of the demand  <b>14/03/2001</b>	Date of completion of this report  <b>22.11.2001</b>
Name and mailing address of the international preliminary examining authority:   <b>European Patent Office</b> <b>D-80298 Munich</b> Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer  <b>Ludi, M</b>  Telephone No. +49 89 2399 2229



**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/GB00/03234

**I. Basis of the report**

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17):*)

**Description, pages:**

1-4 as originally filed

**Claims, No.:**

1-17 as originally filed

18-21 as received on 09/11/2001 with letter of 09/11/2001

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).  
☐ the language of publication of the international application (under Rule 48.3(b)).  
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority in written form.  
☐ furnished subsequently to this Authority in computer readable form.  
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.  
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:  
☒ the claims, Nos.: 22,23  
☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/GB00/03234

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes:	Claims	1-21
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-21
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-21
	No:	Claims	

2. Citations and explanations  
**see separate sheet**

**VIII. Certain observations on the international application**

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

**see separate sheet**



**Re Item V**

Reasoned statement under article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

- 1). Reference is made to the following document:

D1: WO-A-99 14160

- 2). D1 relates to the treatments of salts previously used in the reprocessing and treatment of nuclear materials. The ionic liquid mixture which comprises the ionic liquid, the metal salts and contaminant fission products, is treated to separate the metal salts from the fission products by using separation procedures such as salting out, precipitation methods, ions exchange or electrochemical separation.
- 3). The present invention relates to processes for treating spent ionic liquid, the latter have been used in the reprocessing of nuclear fuels. In these processes the ionic liquid is heated.
- The subject-matter of the present application is therefore novel since it is not disclosed in D1, article 33(2) PCT.

The problem to be solved by the present invention may be regarded as the provision of a method for treating a spent ionic liquid comprising an ionic liquid and contaminants.

The solution to this problem proposed in the present application is considered as involving an inventive step since this solution is neither suggested in D1, nor can be deduced obviously from the combination of the teaching of D1 with the general knowledge of the man skilled in the art, article 33(3) PCT.

**Re Item VIII**

Certain observations on the international application

- 4). Claim 1 does not meet the requirements of article 6 PCT in that the matter for which protection is sought is not clearly defined. The claim attempts to define the subject-matter in terms of the result to be achieved, i.e., heating to form a partial decomposition, which merely amounts to a statement of the underlying problem.

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

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International application No. PCT/GB00/03234

The technical features necessary for achieving this result, i.e., heating under reduced pressure at or below 2 mmHg to a temperature ranging from 200°C to 300°C, should be added. The applicants' attention is drawn to the description on page 2, third paragraph.

## PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>MRH/P15693W0</b>	<b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. <b>PCT/GB 00/ 03234</b>	International filing date (day/month/year) <b>21/08/2000</b>	(Earliest) Priority Date (day/month/year) <b>19/08/1999</b>
Applicant <b>BRITISH NUCLEAR FUELS PLC et al.</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 2 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

## 1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

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☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☐ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

☐ None of the figures.

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 00/03234

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7 G21C19/48

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G21C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P, A	WO 99 41752 A (BRITISH NUCLEAR FUELS PLC ; PITNER WILLIAM ROBERT (GB); ROONEY DAVI) 19 August 1999 (1999-08-19) the whole document ---	1
A	WO 99 14160 A (BRITISH NUCLEAR FUELS PLC ; PITNER WILLIAM ROBERT (GB); FIELDS MARK) 25 March 1999 (1999-03-25) the whole document -----	1



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

## ° Special categories of cited documents

\*A\* document defining the general state of the art which is not considered to be of particular relevance

\*E\* earlier document but published on or after the international filing date

\*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

\*O\* document referring to an oral disclosure, use, exhibition or other means

\*P\* document published prior to the international filing date but later than the priority date claimed

\*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

\*&amp;\* document member of the same patent family

Date of the actual completion of the international search

17 July 2001

Date of mailing of the international search report

24/07/2001

Name and mailing address of the ISA

European Patent Office P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040. Tx. 31 651 epo nl.  
Fax: (+31-70) 340-3016

Authorized officer

Brothier, J-A

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB 00/03234

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9941752 A	19-08-1999	AU 2526799 A CN 1290397 T EP 1055240 A	30-08-1999 04-04-2001 29-11-2000
WO 9914160 A	25-03-1999	CN 1269767 T EP 1019322 A	11-10-2000 19-07-2000